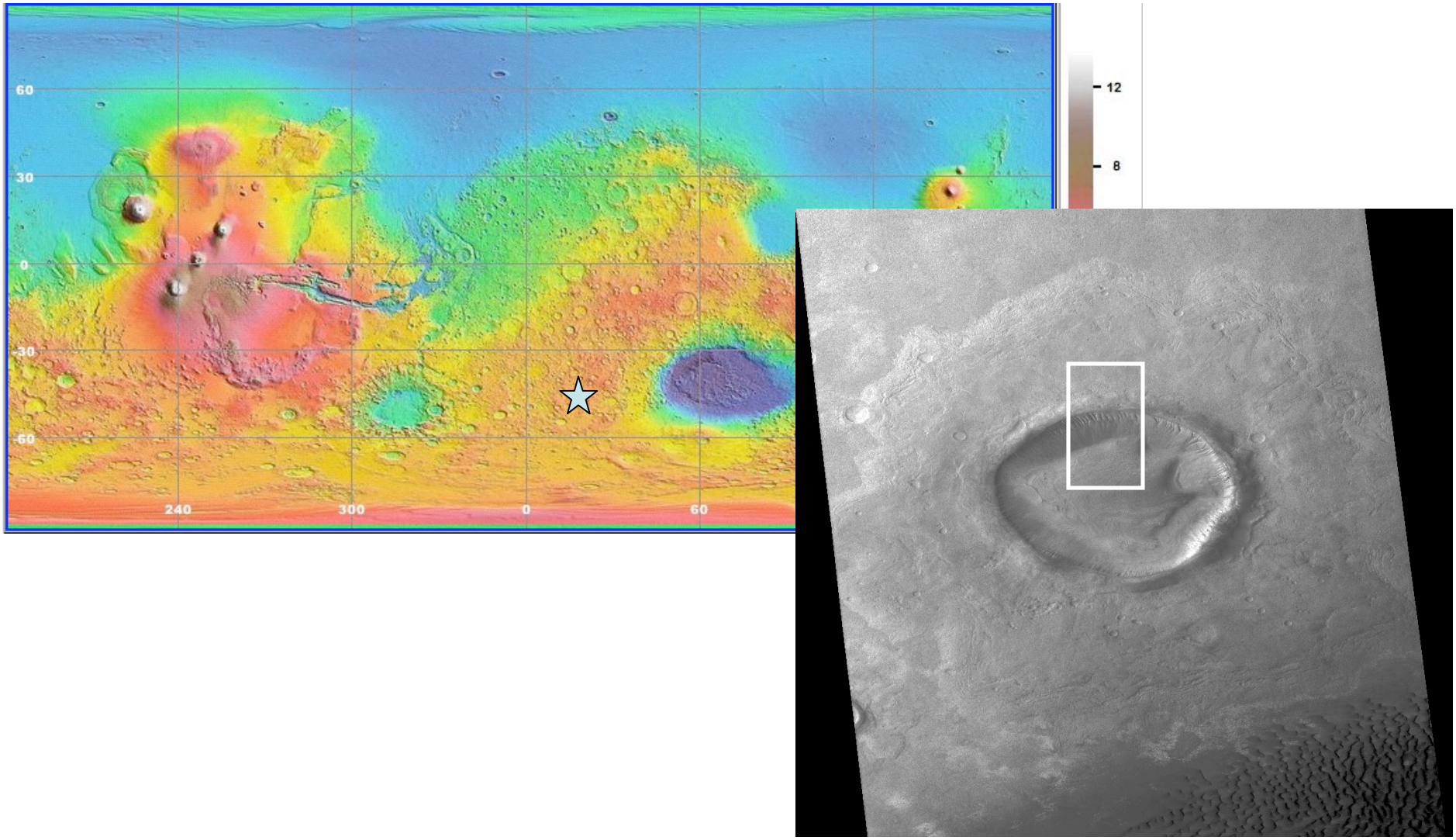
HiRISE Image Challenge

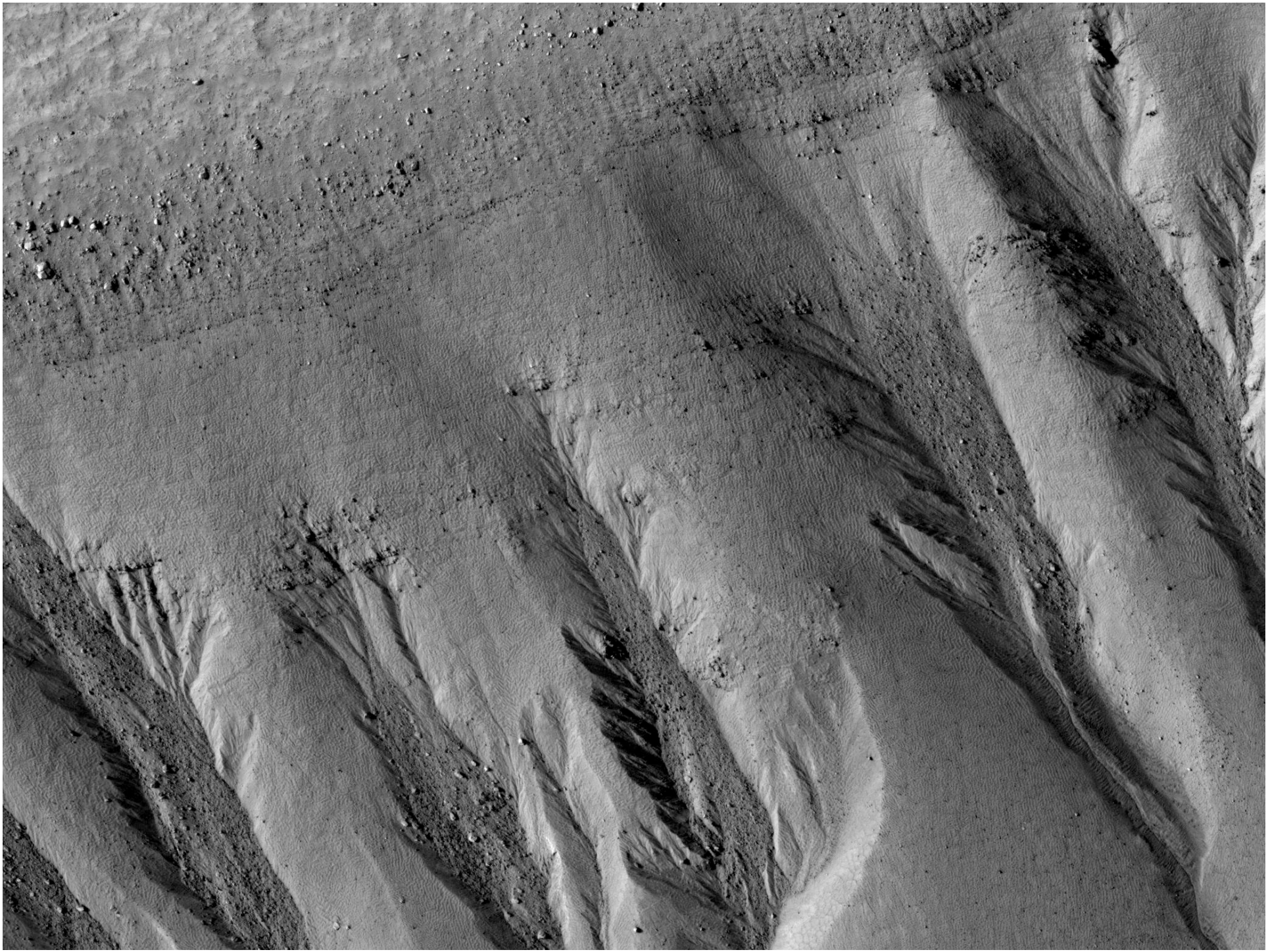
November 13, 2007 Webcast

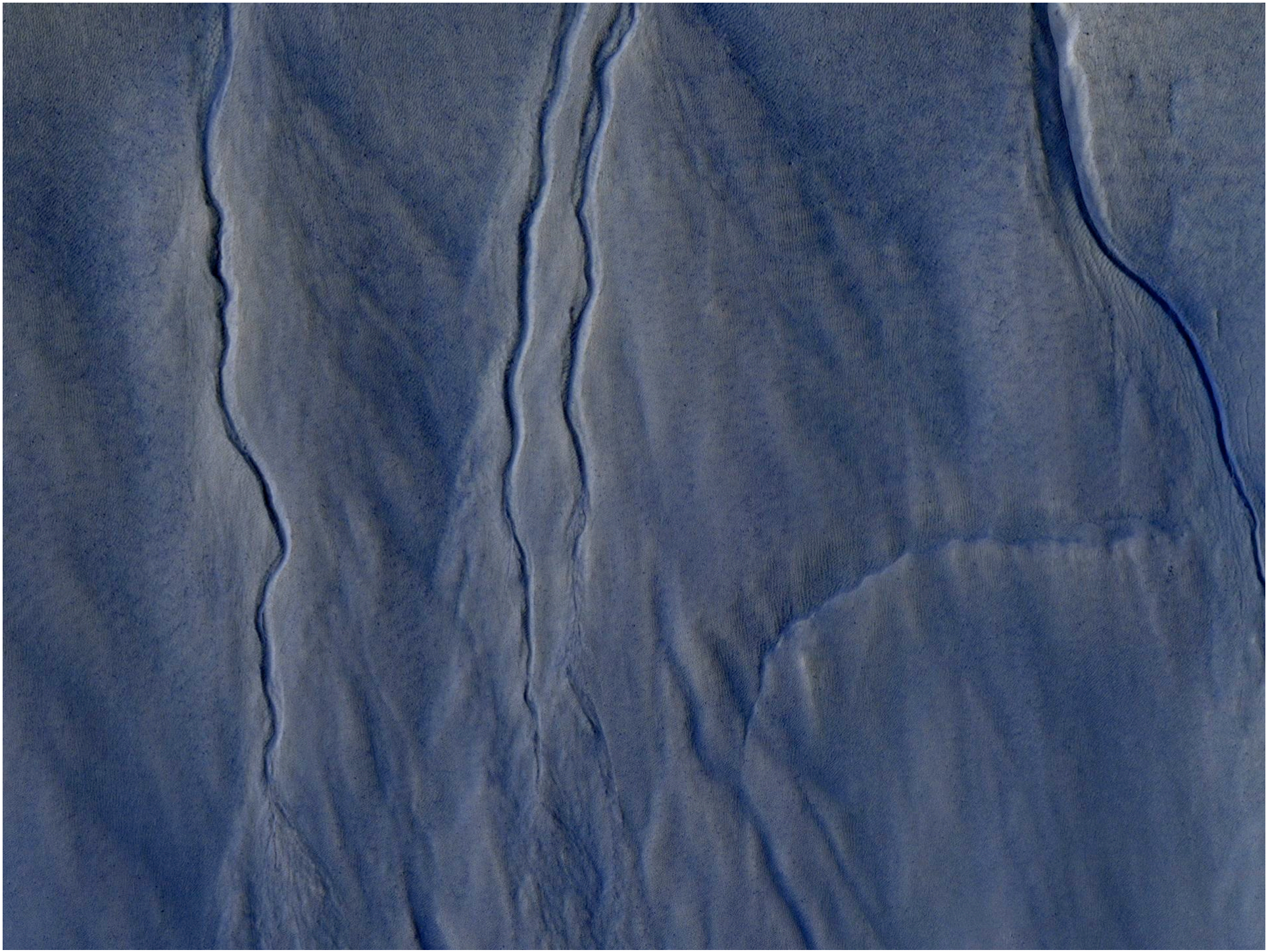
How to analyze an image

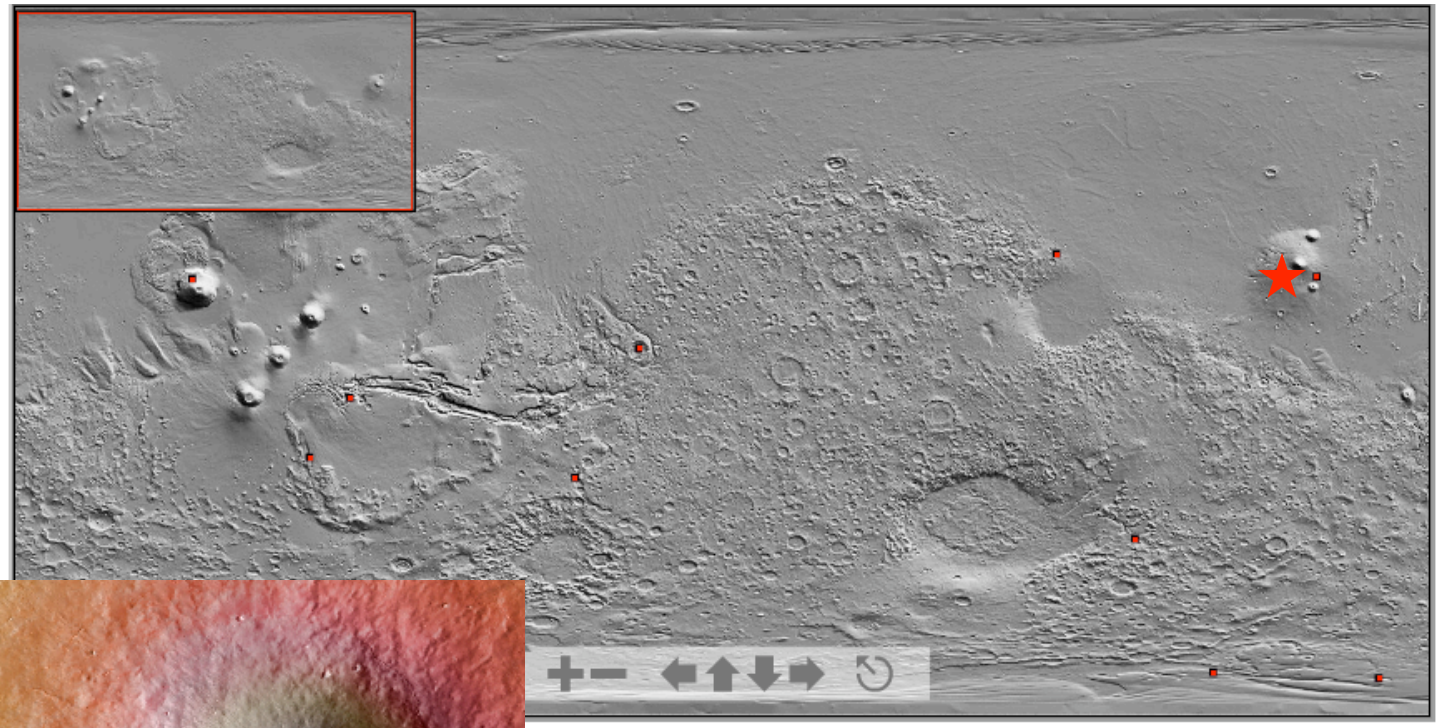
- Where is the image located? What are distinctive features in the area? Is it an old (heavily cratered) area, or a younger terrain?
- Look at the full browse-scale image: what features do you see? What can these things tell you about the geology of the area?
- Zoom in on something interesting: What is the texture of the feature? Do you see any interesting patterns or features?
- Keep zooming in until you are all the way zoomed in to full resolution. What can you see that you couldn't see before?
- Now look at the color: What does the color image tell you that the black and white image didn't?

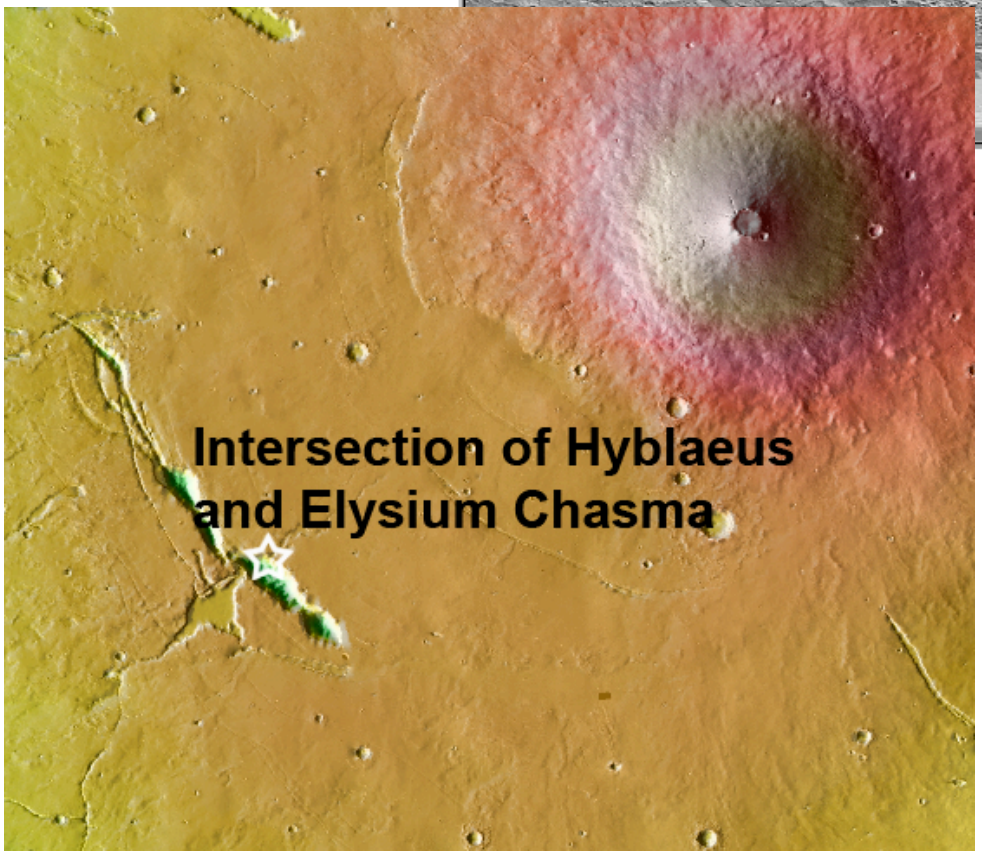
Let’s start by looking at some gullies in Kaiser Crater…









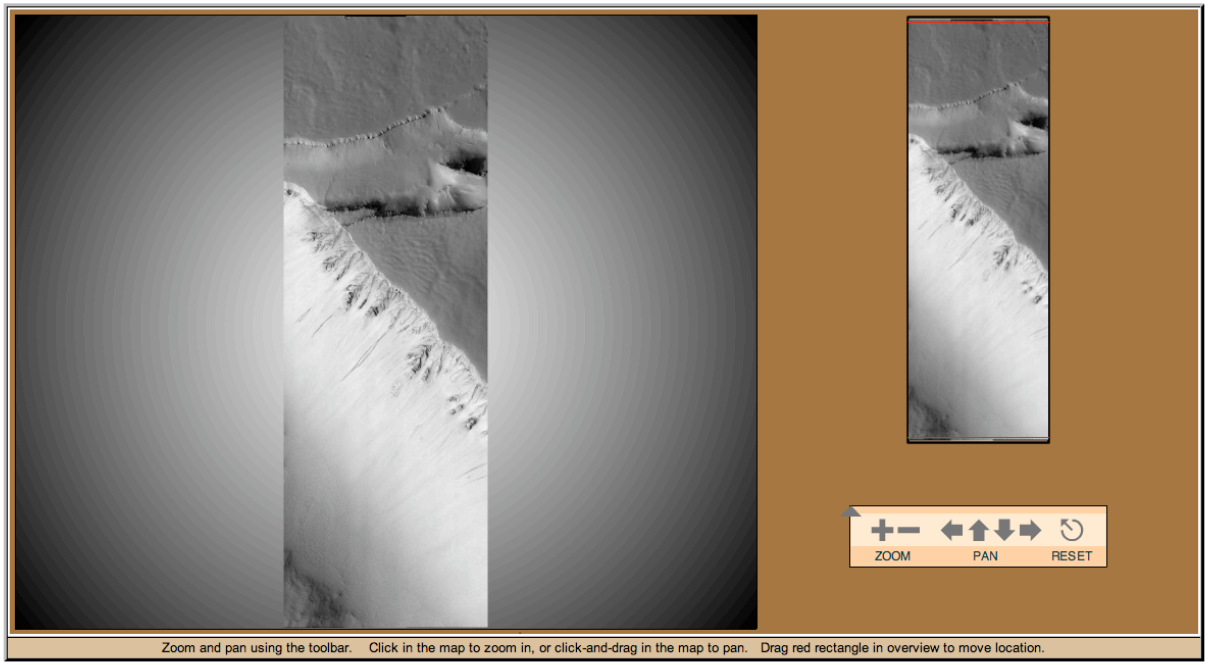


Now let's try another one at the intersection between Hyblaeus and Elysium Chasma…

Intersection of Hyblaeus and Elysium Chasma

HiRISE Image PSP_003545_2025 (Center Lat, Lon °E: 22.27, 141.89)

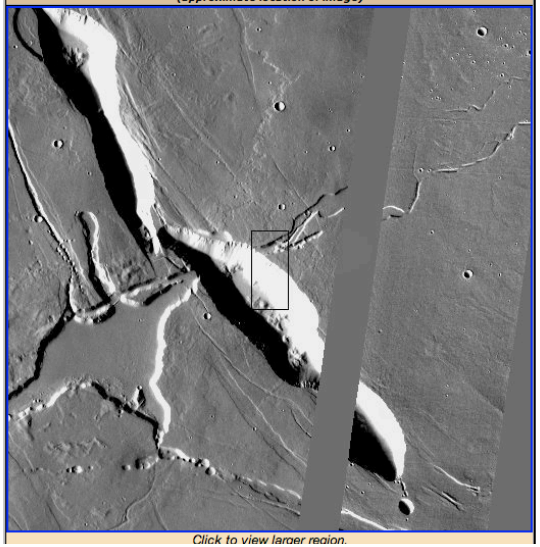
Download Browse Image	Download Full-Scale Image	Join Discussion Group For This Image	Upload Completed Report	Upload Final Caption
1.9 MByte JPEG *(map-projected, scale bar)*	1.12 GByte TIFF *(not map-projected)*	*(Latest post: May 26th)*	Download Report Form	Tips on Writing Captions



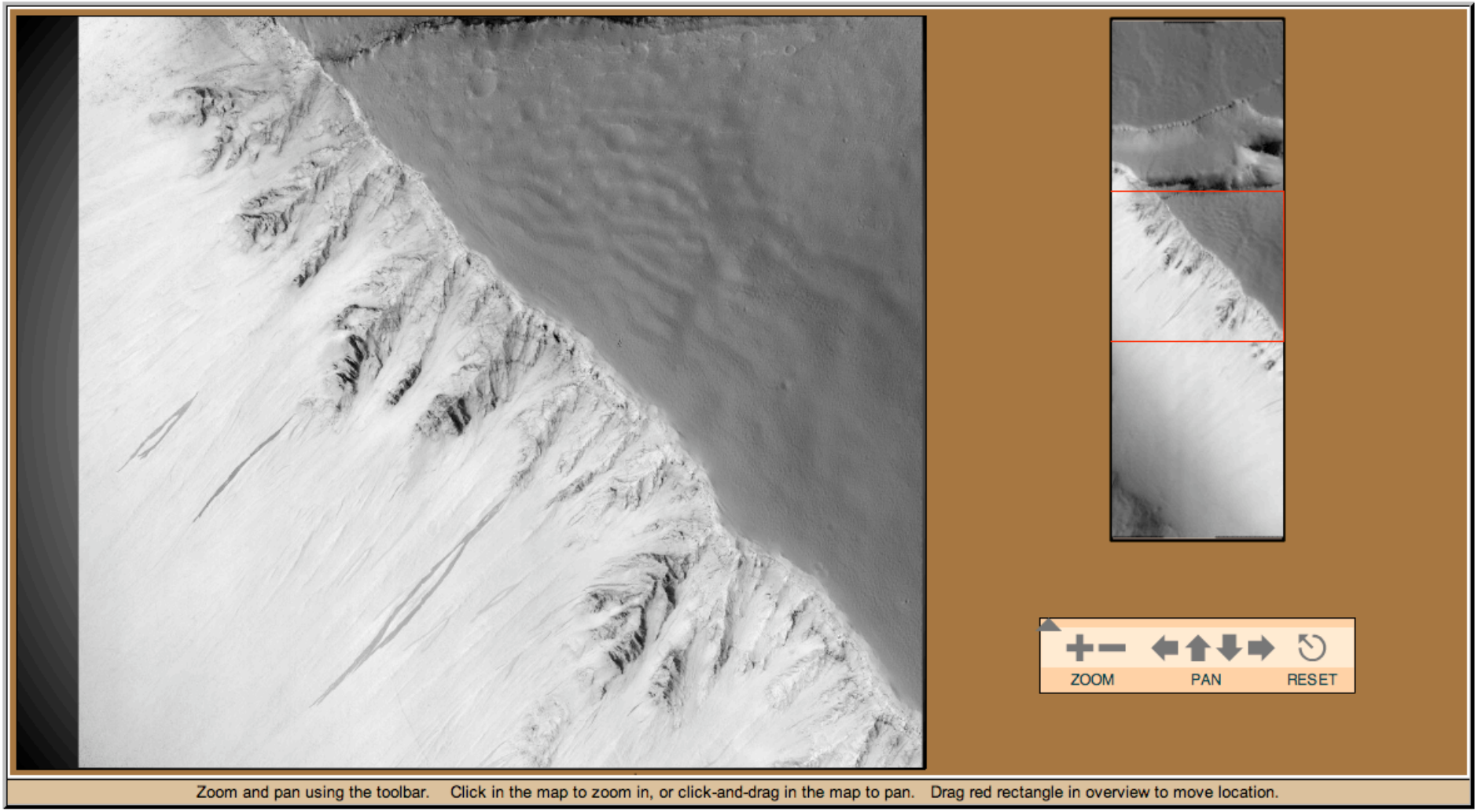
Zoom and pan using the toolbar. Click in the map to zoom in, or click-and-drag in the map to pan. Drag red rectangle in overview to move location.

Context Map

(approximate location of image)



Click to view larger region.



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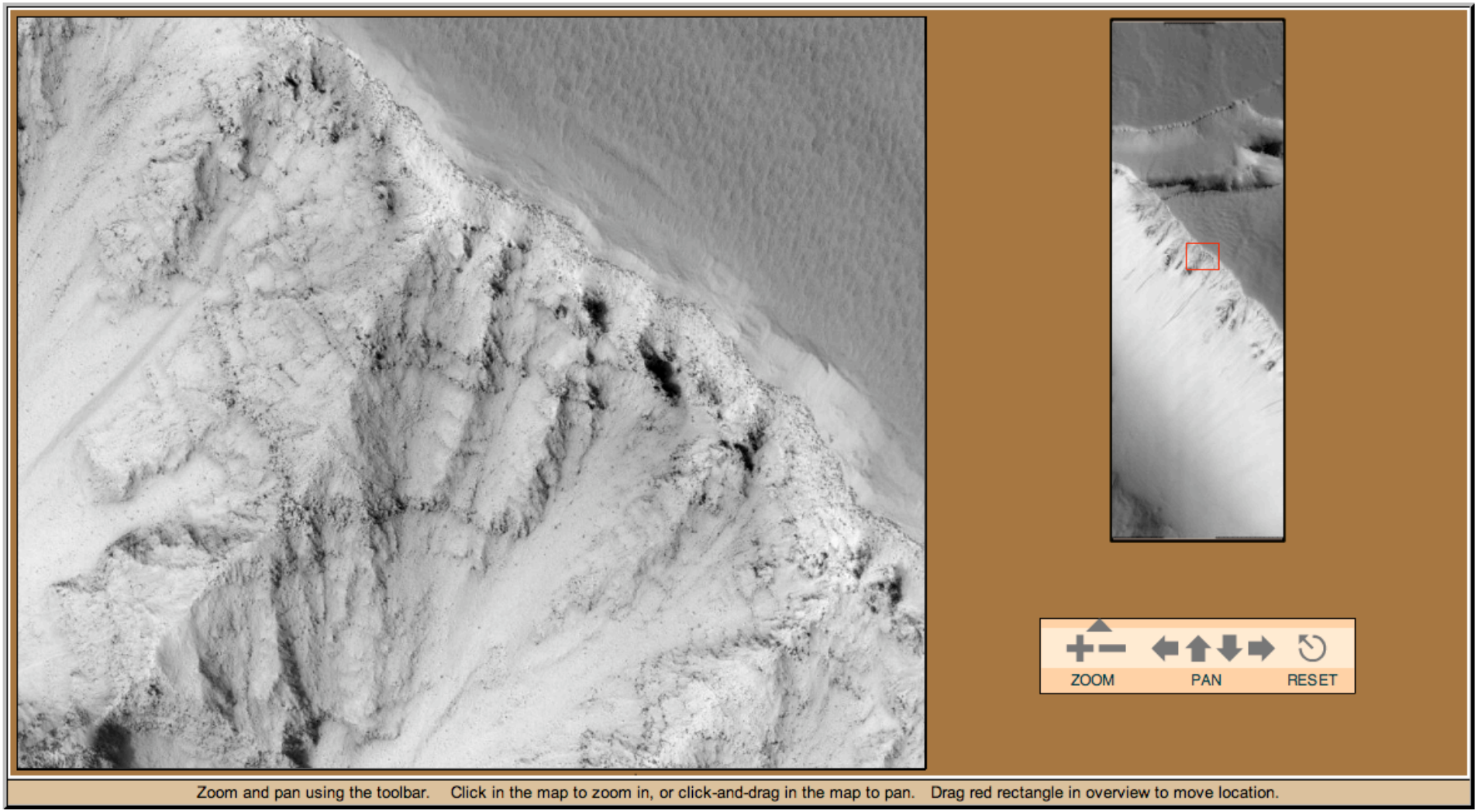

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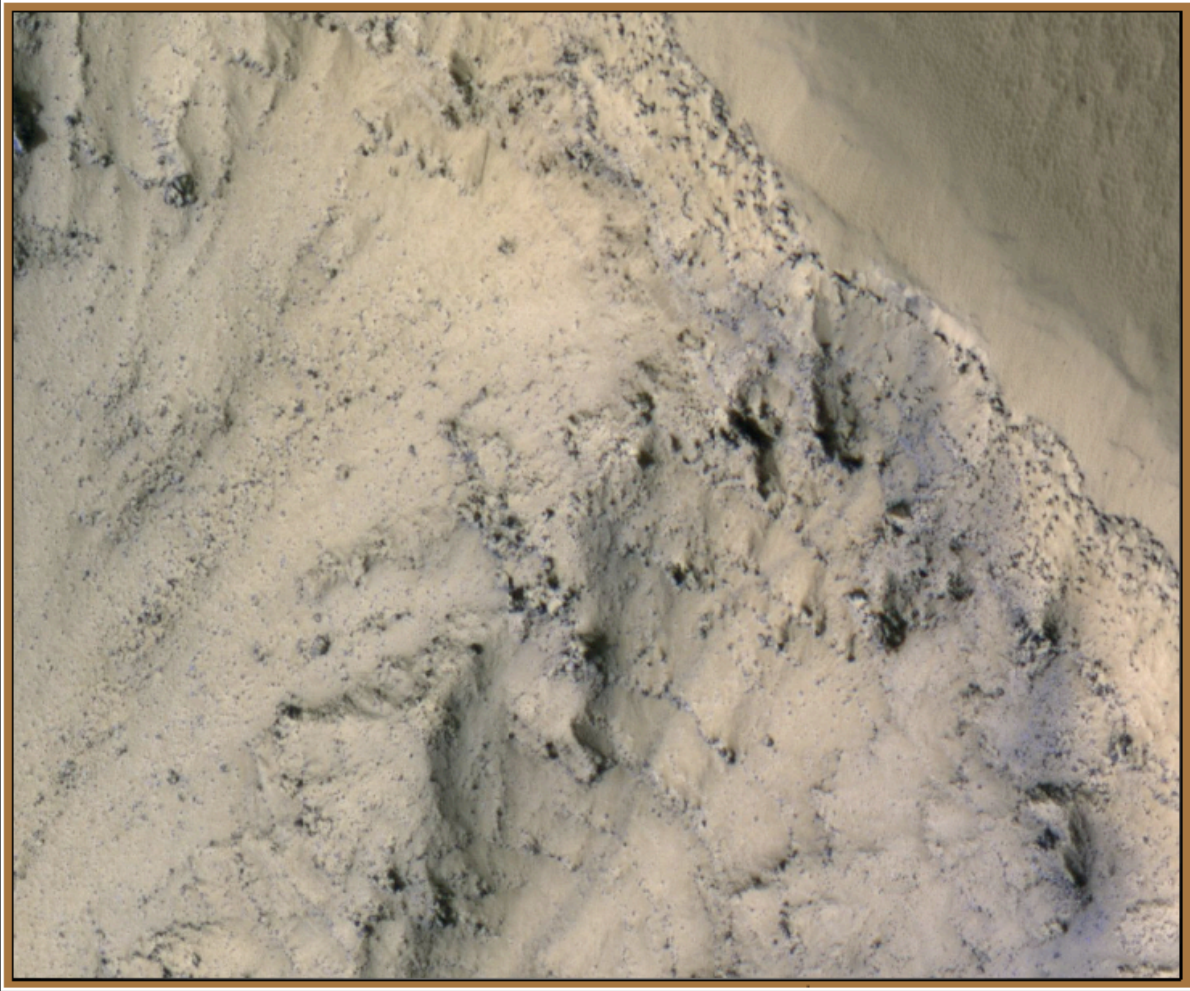

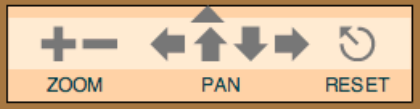

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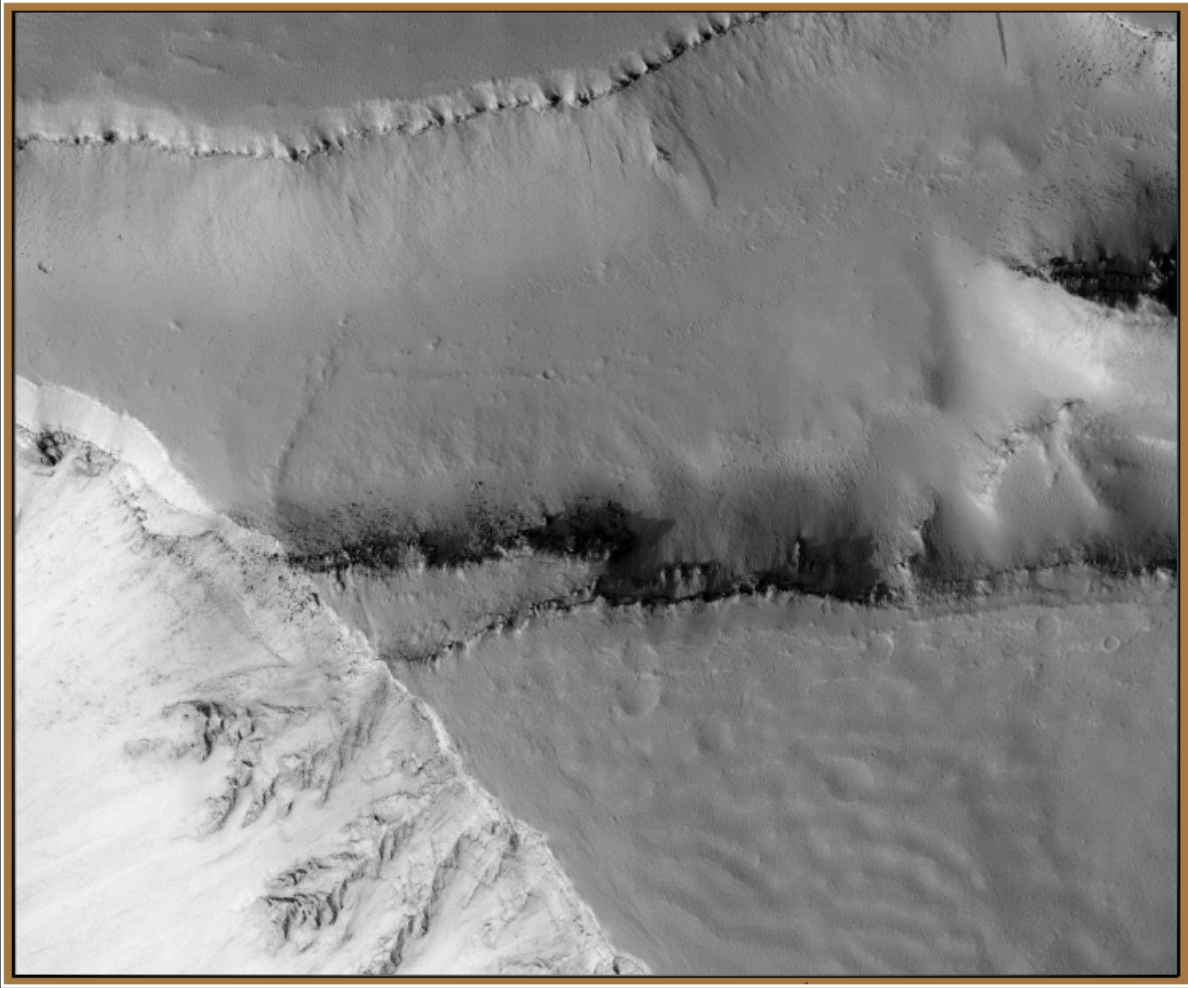
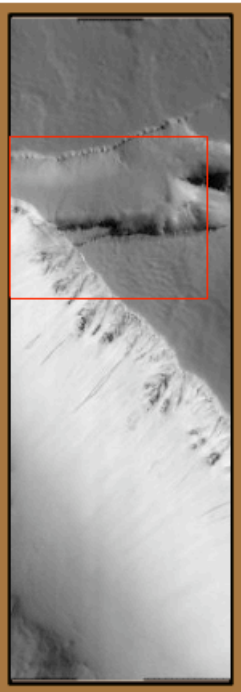
ZOOM PAN RESET

Zoom and pan using the toolbar. Click in the map to zoom in, or click-and-drag in the map to pan. Drag red rectangle in overview to move location.





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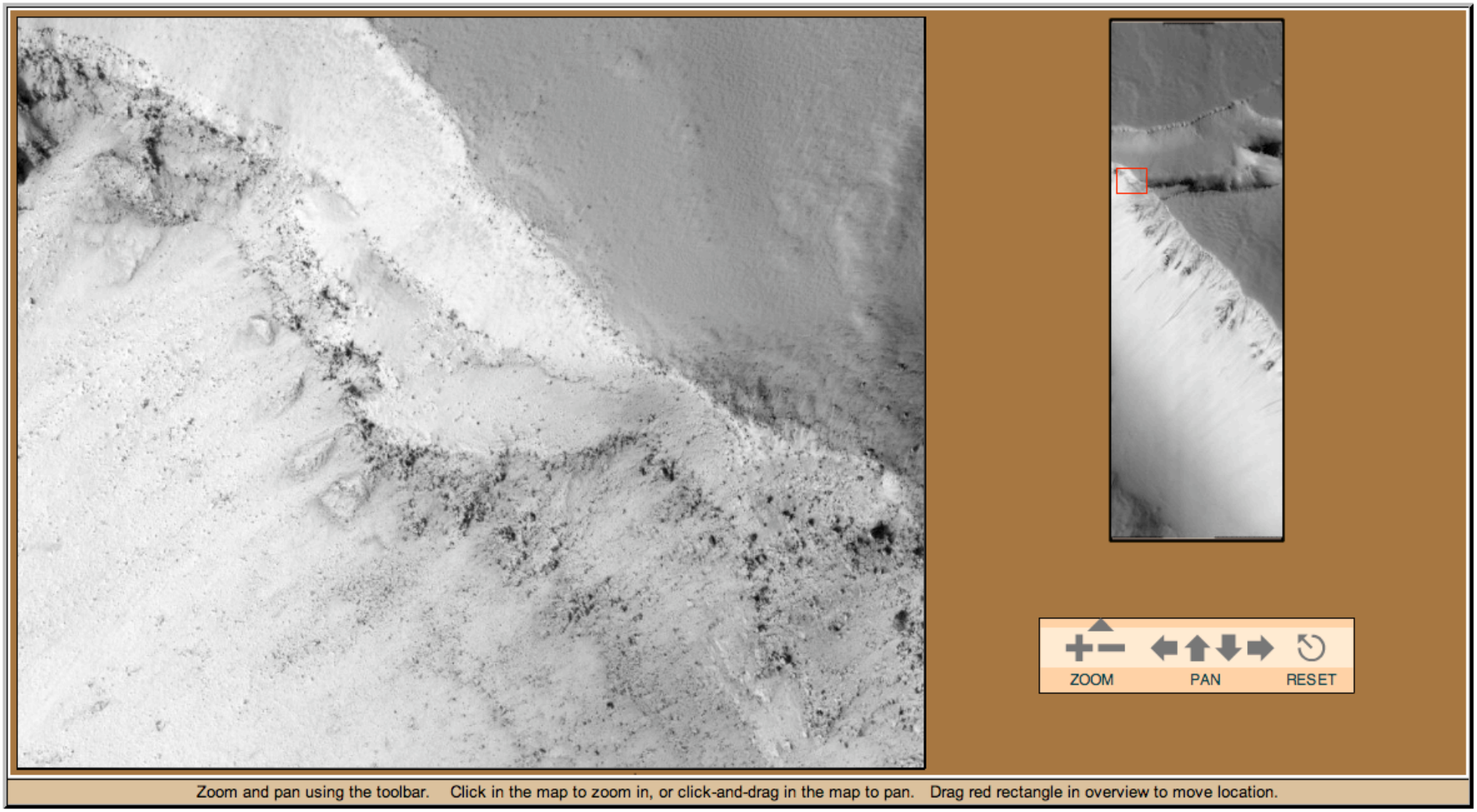
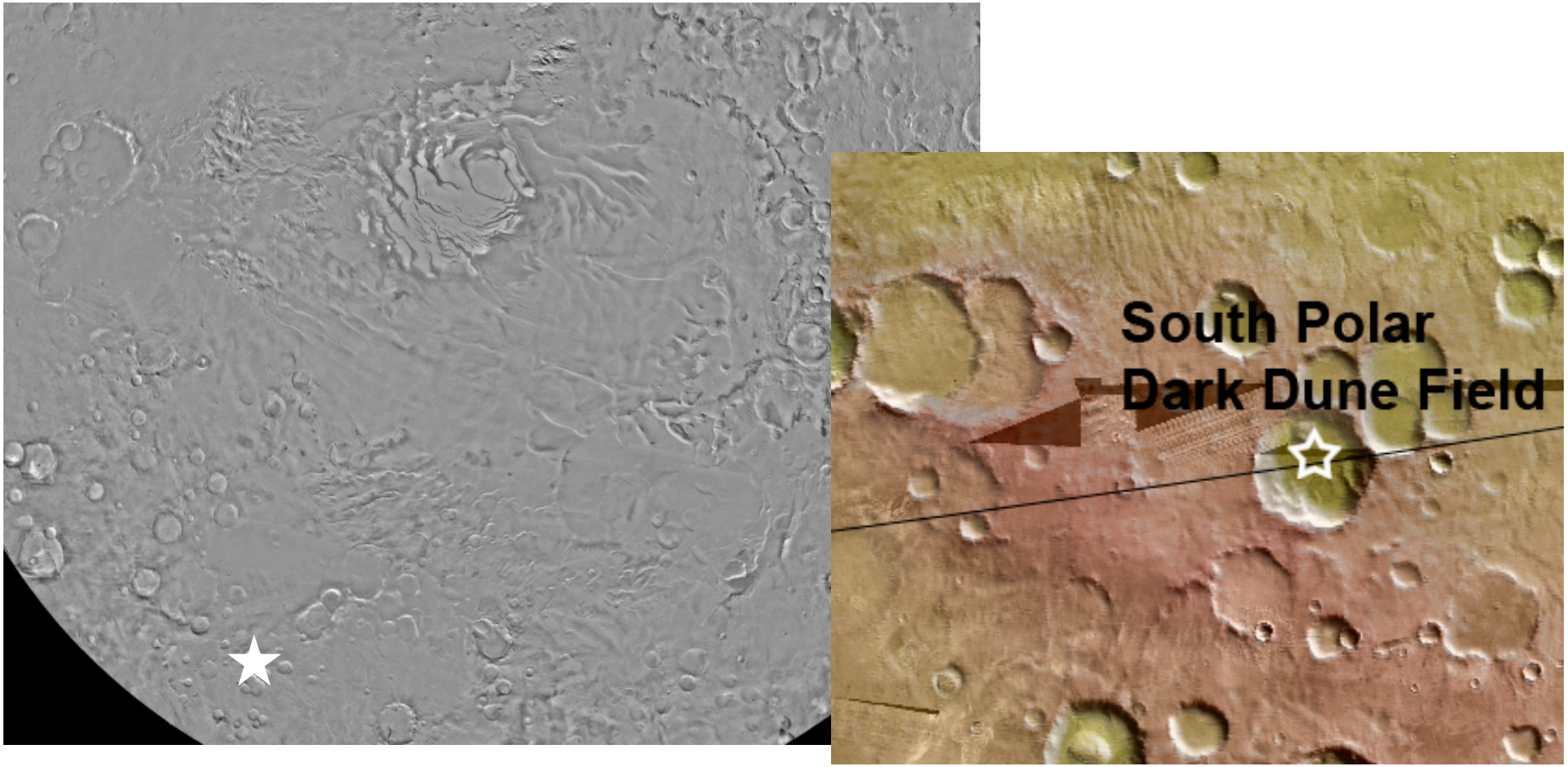

ZOOM
PAN
RESET
Zoom and pan using the toolbar. Click in the map to zoom in, or click-and-drag in the map to pan. Drag red rectangle in overview to move location.

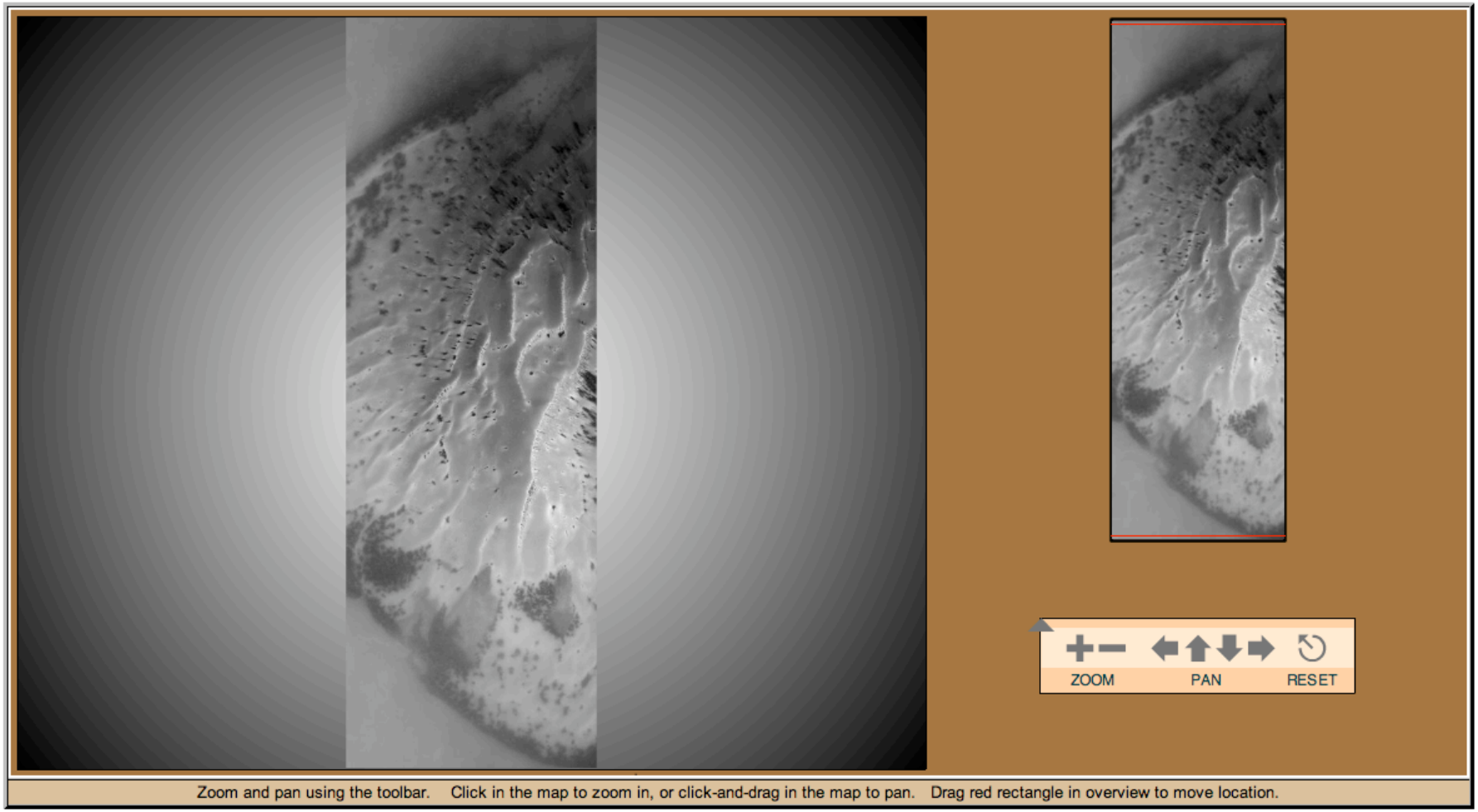
Now let's try it looking at an image of a dune field in the south polar region…



South Polar Dark Dune Field

HiRISE Image PSP_003609_1110 (Center Lat, Lon °E: -68.87, 209.50)

Download Browse Image	Download Full-Scale Image	Join Discussion Group For This Image	Upload Completed Report	Upload Final Caption
648 KByte JPEG *(map-projected, scale bar)*	1.12 GByte TIFF *(not map-projected)*	*(Latest post: May 28th)*	Download Report Form	Tips on Writing Captions



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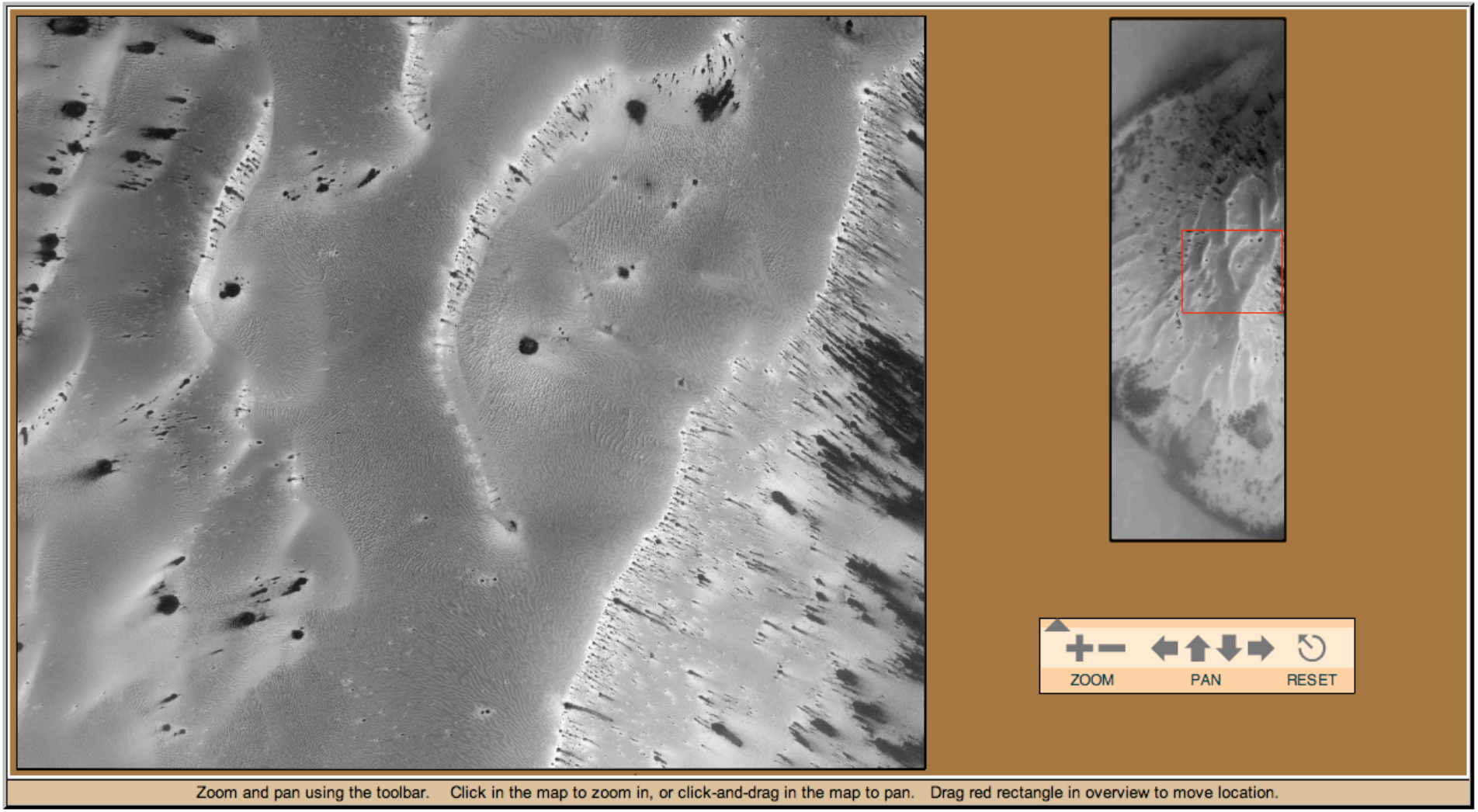
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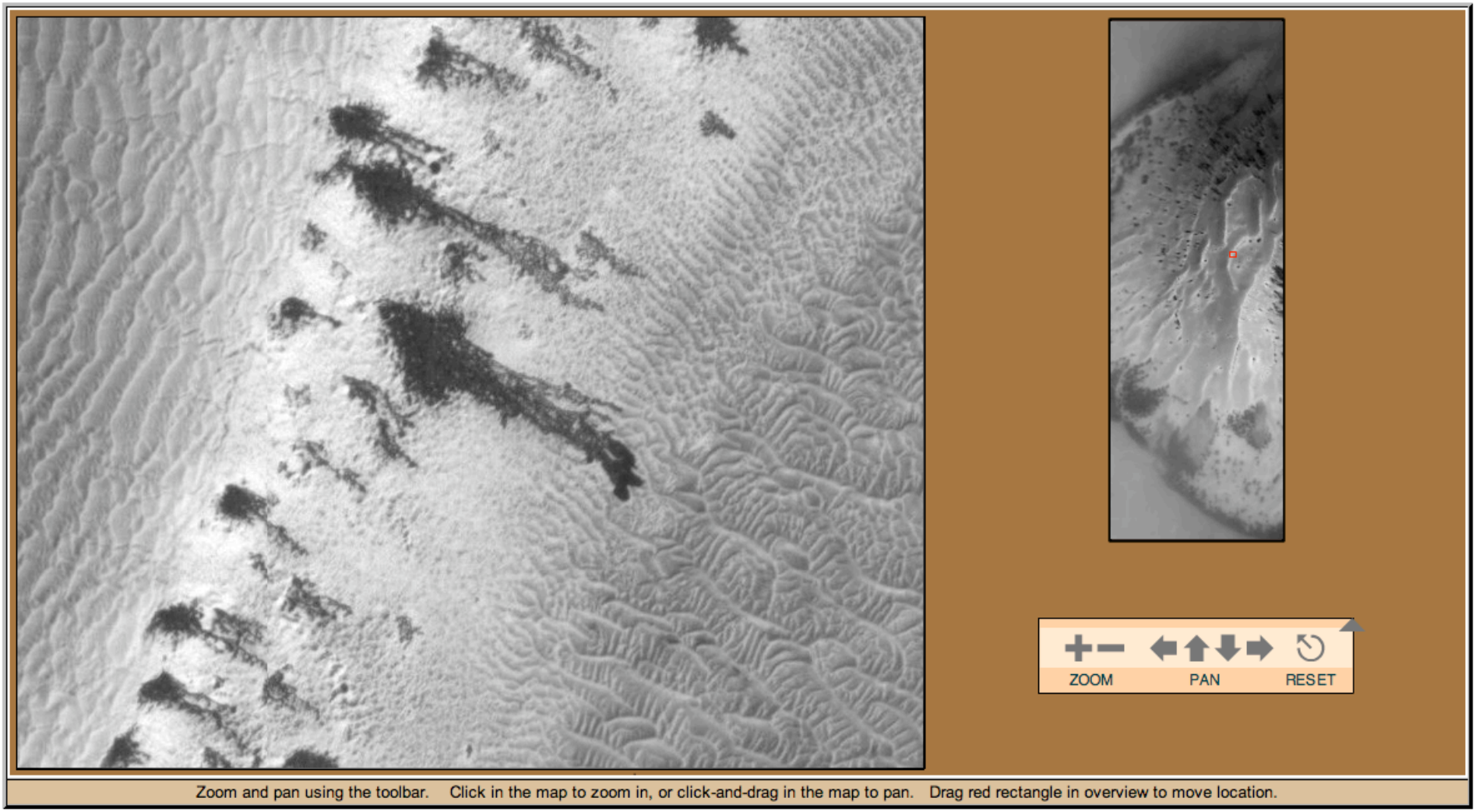
ZOOM
PAN
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ZOOM
PAN
RESET
Zoom and pan using the toolbar. Click in the map to zoom in, or click-and-drag in the map to pan. Drag red rectangle in overview to move location.

Intersection of Partially-Collapsed Valley Floor and Graben Feature

HiRISE Image: PSP_005902_1700 (Center Lat, Lon °E: -10.01, 238.01)

Image Downloads	
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4.9 MB JPEG (map-projected, scale bar)	74 MB JPEG (not map-projected)

Final Report/Caption Uploads	
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Download Blank Report Form	

Quest Discussion Groups

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HiRISE Quest Fall 2007 Challenge Written Report

Name of teacher/student or class group:

1. **What HiRISE image did you choose to analyze?**

2. **Describe the area that has been imaged by HiRISE. You can do this by using some of the lower resolution Mars images* for overviews. (For example, is it part of a valley, canyon system, located in a crater, or near a volcano? What is the name of the area or feature? Is it located in the South Polar Region? Is it equatorial?) What features in the images provide clues to the type of geologic setting? Why might this be a good general area to look for evidence of water? What additional information can you find about the area on the web or in your textbooks.**

7. **Now try to write a figure caption. Here are some hints:**

When writing an image caption, you want to first tell the reader something about where on Mars the image is located: Is it near the North or South pole, is it in a crater, or is it in a channel or at an intersection of two valleys? You should have answered this in question 1.

Describe the features in the image. How large are the features of interest in the image? Look at the browse version of the image for an image scale. Can you see different features at different scales (try starting from the most zoomed out scale and talk about changes as you zoom in)?

Next, pick out a really interesting aspect of the image and describe it. This is a good time to have a cutout, or sub image to show, if possible. Are boulders falling down the walls leaving tracks behind them? Is the color pattern indicating that there is frost on the tips of the dunes?

Finally, try a little interpretation and give the reader the basic idea as to how this area ended up looking like it does: Did rivers flow down the walls of a volcano carrying mud and water? Did wind blow sand into large dunes in a crater floor? Did mud cracks form from the surface going through wet and dry periods?

Take a look at some of the figure captions from the last challenge, all labeled "Student Image of the Week:...". You might further explore the HiRISE website (http://hiroc.lpl.arizona.edu/images/) for examples that are similar to your image. Don't worry about technical jargon, just give the location, describe some interesting feature(s) in the image, and finally give some ideas as to how it might have gotten that way or how the features might have formed.

*Hint: There are many ways to do this. Easiest: Look at the lower resolution zoomable map (located on the website below the HiRISE Quest student challenge images) or the Context image map (located below the selected HiRISE image. More challenging: Log in to our image suggestion website and type in the latitude and longitude on the front main page. Or you can click on an area on the colorful Mars map to bring up a zoomable Mars map. Click the "gazetteer" and "grid" buttons at the bottom of this map to see the lat/lon and place names added. Most Challenging: You can also go to the login/image suggestion website and type in the HiRISE Image ID number to bring up the area of interest.


Any questions?